

DOCUMENT RESUME

ED 240 469

CG 017 301

AUTHOR Butler, Robert A.; Whipple, James
 TITLE The Relationship of Self-Esteem to Depressive Cognition.
 PUB DATE Aug 83
 NOTE 33p.; Paper presented at the Annual Convention of the American Psychological Association (91st, Anaheim, CA, August 26-30, 1983).
 PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)
 EDRS PRICE MF01/PC02 Plus Postage.
 DESCRIPTORS Affective Behavior; *Attribution Theory; *Cognitive Processes; College Students; *Depression (Psychology); Helplessness; Higher Education; Negative Attitudes; Problem Solving; *Self Esteem; *Self Evaluation (Individuals)

ABSTRACT

Both cognitive and learned helplessness models of depression stress the importance of low self-esteem in the etiology of depression and depressive symptomatology. To investigate the correlations and causal relationship of low self-esteem to depressive cognition, equal groups of low, medium, and high self-esteem college students (N=135; 89 female, 46 male) as determined by the revised Janis-Field Feelings of Inadequacy Scale, participated in an experimental self-esteem manipulation in which subjects were given either positive, average, or negative self-esteem feedback on their performance on a bogus social skills test. Subjects completed a battery of measures assessing depressive cognition, self-esteem, and depression level before and after the self-esteem manipulation. An analysis of the results showed that low self-esteem was associated with more depressed-distorted cognition, more depressed, automatic thoughts, and greater depressive affect than was medium or high self-esteem. Tests to determine whether or not low self-esteem was causally related to the development or generality of such cognitions were nonsignificant. The findings only partially support the rationale for therapeutic practices based on a psuedo-causal sequence in which mental activity automatically results in changes of mood or behavior. (BL)

 * Reproductions supplied by EDRS are the best that can be made *
 * from the original document. *

ED240469

The Relationship of Self-Esteem to Depressive Cognition¹

Robert A. Butler and James Whipple
Washington State University

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as
received from the person or organization
originating it.
☐ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

Robert A. Butler

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

Running head: Self-Esteem and Depressive Cognition.

¹Requests for reprints should be sent to Robert A. Butler, Ph.D.
Director, Psychology Service, Brown County Mental Health
Center, 2900 St. Anthony Drive, Green Bay, WI 54301

CG 017301

Abstract

This study tested the correlational and causal relationship of low self-esteem to depressive cognition. Equal groups of low, medium, and high self-esteem college students ($N=135$) received an experimental self-esteem manipulation predicted to differentially affect the generality and quantity of depressive cognition. Prior to and following the manipulation, subjects completed measures assessing depressive cognition, self-esteem and depression level. Correlational results indicated that low self-esteem is associated with more depressed-distorted cognition, more depressed, automatic thoughts, and greater depressive affect than medium or high self-esteem. Tests for whether low self-esteem is casually related to the development or generality of such depressive cognitions were nonsignificant. Theoretical and methodological implications for research on cognitive processes in depression are discussed.

The Relationship of Self-Esteem to Depressive Cognition

Low self-esteem has long been considered a hallmark of depression (Freud, 1917/1955; James, 1880). More recent theories of depression, such as the cognitive models proposed by Beck and his colleagues (Beck, 1967; Beck, Rush, Shaw & Emery, 1979) and the learned helplessness group (Abramson, Seligman, & Teasdale, 1978) have continued to stress the importance of self-esteem in the etiology of depression and depressive symptomatology. Beck (1967) for example, originally hypothesized that low self-esteem is a basic component of the depressed individual's negative cognitive "triad," which also includes a pessimistic view of the environment and future. In a recent elaboration of this model and approach to therapy, Beck and his colleagues suggest that negative self-evaluation is one critical, etiological component of the cognitive distortions typically witnessed in clinically depressed individuals (Beck et al., 1979). Several kinds of biased, distorted cognitive processes are discussed, including the tendency to make overgeneralizations, to selectively abstract negative information, and to draw arbitrary inferences.

The reformulated learned helplessness model of depression also posits that chronic negative self-evaluation plays a central role in the development of depression. Abramson et al. (1978) state that particular attributional styles, such as internal-stable attributions of incompetence, lead to negative self-evaluation. Repeated cognitive appraisals involving similar attributions about the self eventually undermine the individual's belief in their ability to obtain desired outcomes; withdrawal, behavioral passivity, and dysphoria result.

In recent years numerous studies have examined the relationship of self-esteem to depression and depressive symptomatology. A moderate correlational relationship has been established, using disparate subjects, self-esteem measures,

and indices of depression (see Battle, 1978, for a review).

Despite such theoretical and correlational evidence for the role of self-esteem in depression, few studies have tested the causal relation of this factor to the development or generality of depressive symptomatology. Previous experimental attempts have used laboratory analogs, wherein self-esteem was manipulated indirectly by means of a task at which subjects failed or succeeded (Flipppo & Lewinsohn, 1971; Loeb, Beck, Diggory, & Tuthill, 1967; Ludwig, 1975). For example, Ludwig (1975) manipulated self-esteem by providing feedback concerning the subject's "creativity and maturity" on a bogus personality test. Three levels of bogus feedback were presented, including "bolstered" self-esteem feedback, "constant" self-esteem feedback (no information), or "reduced" self-esteem feedback. Ludwig's results indicated that subjects receiving a "reduced" self-esteem treatment manifested significantly more depressed affect, while an increased desire for activity resulted among subjects receiving "bolstered" self-esteem feedback. From these obtained affective changes, Ludwig (1975) concluded low self-esteem is a determinant of depression. Similar indirect manipulations of self-esteem using negative performance feedback have resulted in significantly lower self-evaluations (Loeb et al., 1967) and reduced self-esteem (Flipppo & Lewinsohn, 1971).

In contrast to studies that indirectly manipulate self-esteem, recent investigations have attempted to directly impact self-esteem using Velten's (1968) mood-induction procedure. For example, Coleman (1975) tested the hypothesis that self-esteem is a causal determinant of diverse affective states such as elation and depression. In Coleman's study, subjects read modified Velten positive or negative self-evaluative statements and completed multiple measures of mood, behavior and cognition. Subjects reading negative self-evaluative statements demonstrated increased depression, anxiety and hostility,

slower psychomotor speed, and decreased desire for social interaction. From these data, Coleman (1975) argued that negative self-evaluation is a causal antecedent to depressive affect and depressive symptomatology.

Support for Ludwig (1975) and Coleman's (1975) pivotal studies is provided by similar experimental manipulations of self-esteem in the laboratory. Researchers employing Velten's mood-induction procedure have reported consistent and predicatable differences on a range of cognitive, affective, and behavioral indices associated with depression (Hale & Strickland, 1976; Scheier & Carver, 1977; Strickland, Hale & Anderson, 1975; Wilson & Krane, 1980). These studies reported that subjects engaged in negative self-evaluation were prone to report greater depressive affect, anxiety and hostility, slowed psychomotor performance, and increased desire for social withdrawal than subjects engaged in "neutral" or positive self-evaluation. When viewed collectively, these studies would suggest that depressive symptomatology varies inversely as a function of negative, self-evaluative cognition.

Theoretical and empirical work has been reviewed suggesting that low self-esteem is a determinant of depression. Although these findings would appear consistent, a careful analysis of previous research reveals important limitations that call into question this causal relation.

The majority of empirical evidence for the causal role of low self-esteem in depression is provided by empirical studies employing some variant of Velten's (1968) mood-induction procedure to manipulate subject self-esteem (Coleman, 1975; Hale & Strickland, 1976; Scheier & Carver, 1977; Strickland et al., 1975; Wilson & Krane, 1980). There are major limitations of Velten's procedure that have recently been addressed in the literature (Blaney, 1977; Frost, Graf & Becker, 1979; Polivy & Doyle, 1980). For example, Polivy & Doyle (1980) have

argued that Velten (1968) failed to control for experimenter demand characteristics when developing his mood-induction procedure. When these authors tested this hypothesis using "counter-demand" instructions, they found subjects experienced no significant mood changes and concluded that demand characteristics seem largely responsible for the affective shifts engendered by Velten's technique.

Blaney (1977) has voiced a related criticism of the Velten procedure. He notes that the procedure confounds suggestions of depressive affect with negative, self-evaluative statements. Blaney concludes that empirical studies employing the laboratory procedure are suspect until it can be demonstrated that reading "self derogatory statements is more depressing than reading equally gloomy, non self-referred statements" (Blaney, 1978, p. 205).

Similar objections to Velten's procedure have been raised by Frost, Graf and Becker (1979). They note that Velten's mood statements contain several suggestions of somatic sensations characteristic of depressed states, rather than the more global, negative self-evaluative statements thought to impact self-esteem. In a test of their hypothesis, these authors obtained evidence that such somatic suggestions constitute the instrumental component of Velten's procedure.

The above limitations of Velten's procedure call into question the validity of the approach for manipulating "self-esteem" in the laboratory. One purpose of this research was to consequently reexamine the claim that self-esteem is a causal determinant of depression, using a self-esteem manipulation that circumvented the limitations of previous experimental methodologies.

A second limitation in previous studies concerns the dependent measures employed. Although several studies have tested the relation between self-esteem

and depressive phenomena, one significant symptom has not been systematically evaluated---that of depressive cognition. In recent years there has been increasing evidence that depressed persons manifest specific kinds of cognitive bias, such as distorted perceptions of personal control over the environment (Lewinsohn, Steinmetz, Larson & Franklin, 1981), "depressonogenic", automatic negative thoughts (Hollon & Kendall, 1980), specific kinds of irrational beliefs (LaPointe & Crandell, 1980) and depressed, distorted cognitive appraisals (Blaney, Behar & Head, 1980; Krantz & Hammen, 1979).

To date empirical work delineating the specific kinds of cognitive bias characteristic of depressed individuals has been hampered by a lack of psychometric instruments for assessing such processes. Only recently have scales measuring cognitive styles specific to depression been developed (Krantz & Hammen, 1979; Lefebvre, 1981). Therefore, a second purpose of the present study was to examine the relations among self-esteem and depressive cognition, using scales specifically developed to assess these cognitive processes.

The first hypothesis tested in this study was that self-esteem would significantly correlate with various indices of depressive cognition. This hypothesis was designed to extend previous findings that self-esteem is correlated with depressive symptomatology. The second hypothesis tested whether a laboratory manipulation of self-esteem would result in different levels of depressive symptomatology, including depressive affect and cognition, as has been reported in previous work. The latter hypothesis constituted a test of the causal relation between lowered self-esteem and depressive cognition.

Method

Subjects

Equal groups of low, medium, and high self-esteem college students ($N = 135$) were selected from a larger sample of introductory psychology students

($N = 677$) from criterion scores on the revised Janis-Field Feelings of Inadequacy Scale (JFS; Eagly, 1967). Subjects were invited to participate if their screening self-esteem score fell within a low, medium, or high range. Cutoff scores for criterion group membership were set at plus or minus one standard deviation from the mean for the low and high self-esteem groups; the medium group was selected from those subjects scoring within plus or minus one half a standard deviation around the mean.

Subjects volunteered to participate in an experiment that ostensibly tested the relations among thinking patterns, attitudes toward the self, and social skills. Consenting subjects were randomly assigned to one of three levels of a self-esteem manipulation (positive, average, or negative self-esteem feedback). This procedure resulted in a 3×3 factorial design with three levels of subject self-esteem and feedback.

Experimenters

Four clinical psychology doctoral students served as experimenters in this study. All experimenters received extensive training prior to their administration of the experimental treatment. During training sessions, the experimental procedures were carefully detailed and rehearsed. To obviate potential experimenter bias effects, all experimenters were blind to the assigned condition of each subject. Experimenter teams were balanced for sex, to control for potential sex bias.

Dependent Measures:

The following measures served as dependent variables in this study. They were all administered prior to and following the self-esteem manipulation.

Janis-Field Feelings of Inadequacy Scale (JFS). The JFS is a 20 item self-esteem measure balanced for response bias and scaled using a Likert

format. In a review of the psychometric properties of major self-esteem scales, Crandall (1973) has concluded that the JFS is the instrument of choice for measuring social aspects of self-esteem in college populations, based on studies of split-half reliability and convergent validity.

Cognitive Bias Questionnaire (CBQ). The CBQ (Krantz & Hammen, 1979) contains eight vignettes describing problematic situations common to college students. Four response options are provided, constructed along the dimensions of depression and distortion. Summed responses yield measures of depressed-distorted, depressed-nondistorted, nondepressed-distorted, and nondepressed-nondistorted cognition.

Automatic Thoughts Questionnaire (ATQ). The ATQ is a 30 item scale developed to measure, automatic, negative self-statements associated with depression. Self-statements such as "I'm no good" and "I hate myself" were found to significantly discriminate depressed from nondepressed groups in previous work (Hollon & Kendall, 1980).

Abbreviated Mastery Scale (AMS). The AMS was designed to measure perceptions of mastery over one's environment. Lewinsohn, Steinmetz, Larson & Franklin (1980) reported that the AMS is significantly related to depression and self-esteem, using a large community sample of adults.

Depressive Adjective Check List (DACL). The DACL is a brief, reliable measure of depressive affect, administered to assess treatment effects on subject depression level. Forms G and D of the DACL were selected for use in this study, as previous psychometric work demonstrated these forms possess the highest intercorrelation in college populations (Lubin & Himelstein, 1976).

Questionnaire packet. The above measures were administered prior to and following the self-esteem manipulation, enabling calculation of pre-scores,

post-scores, and change-scores. All questionnaire packets were counterbalanced with respect to questionnaire order in both administrations.

Procedure

Procedures for conducting the experimental manipulation of self-esteem were patterned after Hammen and Krantz (1976). Subjects reported to a large computer terminal room at Washington State University and were administered the pre-treatment measures outlined above. All subjects were seated two apart to insure anonymity of responses and to minimize reactance effects arising from group administrations.

Subjects were asked to complete a bogus social skills test, adopted from the Defense Mechanism Inventory (Gleser & Ihilevick, 1969) using machine readable opscan sheets. Materials for the bogus social skills test consisted of a booklet labelled "Social Intelligence Test" that contained descriptions of five problematic stories. For each story, an interpersonal situation was described and the subject asked to indicate his/her preferred solution. Solutions had been standardized for social desirability in previous research (Gleser & Ihilevich, 1969). This particular test was selected as it had been shown to constitute a believable test of social skill in previous investigations (Miller & Norman, 1981) and secondly, because there are no obviously "right" solutions to the problematic situations, enabling bogus feedback to be easily manipulated.

After subjects had completed the pre-treatment measures and social skills test, an experimenter announced the tests would be scored at the computer terminal down the hall. Subjects were told they would each receive confidential feedback concerning their respective social skill level. Following strict instructions to refrain from discussing their test impressions with other subjects,

the experimenter left the terminal room to allegedly score the tests.

A second experimenter then delivered a prearranged, standardized lecture designed to heighten the importance and credibility of the bogus feedback. Subjects were informed that psychologists had researched the role of social skills to college adjustment for a number of years, and had observed that an individual's social skill level was reliably correlated with his/her academic and interpersonal success, and emotional stability. Subjects then received veridical summaries of research concerning aspects of assertiveness and dating behavior among college students.

The experimenter next explained that a Washington State University research team had recently conducted research examining how thinking and problem-solving skills are related to social skills level and adjustment to the University. Bogus preliminary "findings" from this research were described and subjects informed that the current study was designed to cross-validate these preliminary "results". Subjects were further told that based on earlier findings, social skill level was found to be an accurate and reliable predictor of academic success, physical health, and general emotional stability. Moreover, subjects were informed that persons with low social skill were likely to encounter a great deal of difficulty coping with college pressures, and were unlikely to successfully complete four years at the University. Finally, subjects were given bogus "norms" corresponding to social skill level and academic success, allegedly derived from previous research at Washington State University. These bogus norms were written on the blackboard and discussed in terms of raw scores, percentile scores, and correlates of successful college adjustment.

Raw scores and percentile scores were selected to correspond to test scores customarily interpreted by college students as positive, average, or

negative performance. These scores were previously tested by Hammen and Krantz (1976) on a similar college population, and reached over 70% percent consensual interpretation.

Following this bogus ten-minute lecture, the first experimenter returned with a computer printout containing each subject's bogus scores. Each printout contained a descriptive heading corresponding to the standard accounting information printed by the WSU Computer Center (e.g. computing time, cost of run, etc.), raw scores, and percentile scores. All subjects were then handed each printout separately, to ensure confidentiality of feedback and instructed to compare their scores with the norms previously outlined. They were given three minutes to examine the bogus feedback and directed to complete the post-treatment questionnaire packet. This packet was identical to the pre-treatment packet, with the addition of manipulation checks assessing the importance and accuracy of the social skills feedback.

Following completion of the post-treatment measures, subjects were thoroughly debriefed as to the necessity for deception in the study. Adverse subject reactions were handled by reiterating that social skills feedback was completely contrived for this study, and demonstration of the bogus computer scoring program.

Results and Discussion

Eighty-nine females and 46 males served as subjects in a sample comprised primarily of freshmen (M age = 19.38, SD = 1.24). To assess for possible biases in subject selection or random assignment, three-way analyses of variance (variable X feedback X self-esteem level) were conducted on selected demographic characteristics. None of these analyses yielded significant main effects or interactions for subject sex, age, or grade level.

In order to examine the first hypothesis, that self-esteem level would be

significantly correlated with several measures of depressive cognition, Pearson product-moment correlations were computed across all pre-treatment measures. As predicted, self-esteem was correlated with all cognitive measures except the depressed-nondistorted subscale of the CBQ (all correlations significant at $p < .001$). Lower self-esteem levels were associated with greater automatic, negative thoughts, as measured by the ATQ than medium or high self-esteem levels. A previous factor-analytic study of this measure demonstrated that the ATQ taps cognitive distortions of personal maladjustment, negative expectations, and helplessness (Hollon & Kendall, 1980).

Insert Table 1 about here

Table 1 also presents correlations indicating that subjects with comparatively lower self-esteem engaged in more depressed-distorted cognition, endorsed a lower sense of personal mastery, and reported more depressed affect. These results provide consistent correlational support for the hypothesis that low self-esteem is associated with specific kinds of cognitive distortions.

Interesting correlational results were also obtained concerning the cognitive biases of persons high in self-esteem. High self-esteem subjects engaged in greater nondepressed but distorted cognition. Such patterns of cognitive appraisal processes are consistent with results reported by Lewinsohn, Mischel, Chaplin & Barton (1980), wherein nondepressed subjects consistently distorted their recall of evaluative feedback in a positive direction. Such distorted, but nondepressed cognitive appraisal mechanisms may function to effectively filter out self-discrepant information. In contrast, one may speculate that the absence of such a protective, albeit illusory

"glow", may place individuals at high risk for depression. This is a testable hypothesis for future experimental investigation.

To test the second hypothesis, that self-esteem is causally related to the development and generality of depressive cognitions, feedback by self-esteem analyses of variance comparisons were performed across all dependent measures, using change-scores as the criterion measures. Change-scores were computed by subtracting pre-treatment from post-treatment scores. Analysis of such change-scores represents a methodological improvement over previous studies that have administered treatments and analyzed post-treatment scores only (Coleman, 1975; Hale & Strickland, 1976; Flipppo & Lewinsohn, 1971; Hammen & Krantz, 1976; Strickland, Hale & Anderson, 1975; Wilson & Krane, 1980). Means and standard deviations for these analyses are presented in Table 2.

Insert Table 2 about here

A significant main effect for self-esteem was obtained on the analysis of ATQ change-scores. Neuman-Keuls post-hoc comparisons showed that low self-esteem subjects experienced a greater reduction in negative thoughts than either medium $q(2, 126) = 4.07, p < .01$, or high $q(3, 126) = 4.71, p < .01$ self-esteem subjects. However, there were no treatment main effects or interactions, suggesting that the obtained effect is perhaps due to the unreliability of the ATQ at retest or other unmeasured factors.

Similar ANOVAS were conducted on changes in CBQ scores, AMS scores, DACL scores and JFS scores. A significant treatment effect for the depressed-nondistorted subscale of the CBQ was obtained $F(2, 126) = 3.94, p < .05$. Post-hoc comparisons revealed that average feedback produced significantly

more change than did positive feedback, $q(3, 126) = 3.96, p < .05$, but did not differ significantly from negative feedback. No significant interactions were obtained on the depressed-nondistorted measure.

A main effect for self-esteem level was also obtained on the change-score analysis, $F(2, 126) = 22.51, p < .001$. Post-hoc comparisons revealed all groups differed significantly from each other (all q 's less than .001), with low self-esteem subjects demonstrating the greatest quantitative change. Surprisingly, there were no feedback main effects or interactions, suggesting that the obtained changes most likely reflect a regression effect or test-retest unreliability on the JFS scale. No main effects or interactions were obtained on analyses of the remaining dependent measures.

These results provide no support for the hypothesis that self-esteem is casually related to the development or type of depressive cognition. Such a hypothesis would be tenable if treatments that impact self-esteem increased the frequency or generality of such cognitions. Failure to observe significant treatment effects stands in contrast to earlier studies linking self-esteem changes to a variety of depressive symptoms. For example, although the present study failed to note increased depressive cognition, changes in cognitive appraisal mechanisms and depressive symptomatology have been reported in several earlier studies (Coleman, 1975; Hale & Strickland, 1976; Scheier & Carver, 1977; Strickland et al., 1975; Wilson & Krane, 1981) following self-esteem manipulations.

Several potential factors may account for the failure of this study to establish a causal link between lowered self-esteem and depressive cognition. One consideration is that treatment effects were assessed using rigorous change-score analyses, wherein powerful and pervasive treatment effects must exist to reach significance. Another consideration is that test-retest unreliability of the dependent measures can be expected to attenuate measured treatment effects

when change-scores are utilized. To date, few test-retest reliability coefficients have been reported for many of the cognitive measures employed in this study. Krantz & Hammen (1979) for example, found no clear relation between affective mood changes and shifts in the severity of depressed-distorted cognition. Similarly, no test-retest reliability coefficients have been published for the ATQ measure. Hollon and Kendall (1980) have argued that depression is often a cyclical phenomenon and thus such coefficients can only be reported in conjunction with test-retest coefficients of depression measures. Further studies of the psychometric properties of cognitive bias scales are badly needed for investigators active in researching cognitive processes.

Yet another concern relates to definitional and assessment issues surrounding the construct of self-esteem. Although the term has been used in diverse ways since William James (1880), attempts to psychometrically operationalize the construct are plagued by ambiguity (Crandall, 1973). This lack of definitional precision is apparent from the plethora of synonyms witnessed in the literature (e.g., self-regard, self-acceptance, self-concept). Considerable error variance in this study may thus be attributed to the construct validity of the self-esteem index. Moreover, the magnitude of error variance is likely exacerbated in studies that select subjects and administer treatments based on particular levels of self-esteem. An important methodological consideration in future research endeavors is that self-esteem measures be correlated with behavioral observations and peer ratings.

Results of this study lend support to the increasing scepticism that cognitions constitute causal entities in depression (Buchwald, Struck & Coyne, 1981; Coyne, 1982; Wortman & Dintzer, 1978). It has been argued, for example, that contemporary conceptualizations of cognitive processes endorse a pseudo-causal

sequence, in which mental activity automatically results in changes of mood or behavior (Coyne, 1982). Indeed, such views would seem central to therapeutic strategies practiced by cognitive therapists (e.g. Beck et al., 1979; Ellis, 1977; Emery, Hollon & Bedrosian, 1981). Results of this study only partially support the rationale for such cognitive interventions, and suggest that cognitive appraisal processes are associated with but are not causal antecedents to depressive affect or distorted cognitions.

References

- Abramson, L. Y., Seligman, M.E.P., & Teasdale, J.D. Learned helplessness in humans: Critique and reformulation. Journal of Abnormal Psychology, 1978, 8, 49-74.
- Battle, J. Relationship between self-esteem and depression. Psychological Reports, 1978, 42, 745-748.
- Beck, A. T. Depression: Causes and treatment. Philadelphia: University of Pennsylvania Press, 1967.
- Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. Cognitive therapy of depression. New York: The Guilford Press, 1979.
- Blaney, P.H. Contemporary theories of depression: Critique and comparison. Journal of Abnormal Psychology, 1977, 86, 203-223.
- Blaney, P. H., Behar, V., & Head, R. Two measures of depressive cognitions: Their relations with depression and with each other. Journal of Abnormal Psychology, 1980, 89, 678-682.
- Buchwald, A. M., Struck, S., & Coyne, T. C. Demand characteristics and the Velten procedure. Journal of Abnormal Psychology, 1981, 49, 478-479.
- Coleman, R. E. Manipulation of self-esteem as a determinant of mood of elated and depressed females. Journal of Abnormal Psychology, 1975, 84, 693-700.
- Coyne, J. C. A critique of cognitions as causal entities with particular reference to depression. Cognitive Therapy and Research, 1982, 6, 3-13.
- Crandall, R. The measurement of self-esteem and related attitudes. In J.P. Robinson and P.R. Shaver (Eds.). Measures of social psychological attitudes. Ann Arbor, Mich: Institute of Social Research, 1973.

- Eagly, A. H. Involvement as a determinant of response to favorable and unfavorable information. Journal of Personality and Social Psychology, Monograph, 7(3), November, 1967 (Whole No. 643).
- Ellis, A. Rational-emotive therapy: Research data that supports the clinical and personality hypotheses of RET and other modes of cognitive-behavior therapy. Counseling Psychologist, 1977, 7, 2-46.
- Emery, G., Hollon, S. D., & Bedrosian, R. C. New directions in cognitive therapy. New York: The Guilford Press, 1981.
- Freud, S. Mourning and melancholia. In J. Strachey (Ed. and trans.), Standard edition of the complete works of Sigmund Freud (Vol. 14). London: Hogarth Press, 1957. (Originally published 1917).
- Flippo, J. R., & Lewinsohn, P. M. Effects of failure on the self-esteem of depressed and nondepressed subjects. Journal of Consulting and Clinical Psychology, 1971, 36, 151-159.
- Frost, R. O., Graf, M., & Becker, J. Self-devaluation and depressed mood. Journal of Consulting and Clinical Psychology, 1979, 47, 956-962.
- Gleser, G., & Ihilevick, D. An objective measure of defense mechanisms. Journal of Consulting and Clinical Psychology, 1969, 34, 846-851.
- Hale, W. D., & Strickland, B. R. Induction of mood states and their effect on cognitive and social behaviors. Journal of Consulting and Clinical Psychology, 1976, 44, 155.
- Hammen, C. L., & Krantz, S. Effects of success and failure on depressive cognitions. Journal of Abnormal Psychology, 1976, 85, 577-586.
- Hollon, S. D., & Kendall, P. C. Cognitive self-statements in depression: Development of an automatic thoughts questionnaire. Cognitive Therapy and Research, 1980, 4, 383-395.

- James, W. Principles of psychology. New York: Holt, 1880.
- Krantz, S., & Hammen, C. Assessment of cognitive bias in depression. Journal of Abnormal Psychology, 1979, 88, 611-619.
- LaPointe, K. A., & Crandell, C. J. Relationship of irrational beliefs to self-reported depression. Cognitive Therapy and Research, 1980, 4, 247-250.
- Lefebvre, M. F. Cognitive distortion and cognitive errors in depressed psychiatric and low back pain patients. Journal of Consulting and Clinical Psychology, 1981, 49, 517-525.
- Lewinsohn, P. M., Mischel, W., Chaplin, W., & Barton, R. Social competence and depression: The role of illusory self-perceptions. Journal of Abnormal Psychology, 1980, 89, 203-212.
- Lewinsohn, P. M., Steinmetz, J. L., Larson, D. W., & Franklin, J. Depression related cognitions: Antecedent or consequence? Journal of Abnormal Psychology, 1981, 90, 213-219.
- Loeb, A., Beck, A. T., Diggory, J. C., & Tuthill, R. Expectancy, level of aspiration, performance, and self-evaluation in depression. Proceedings of the 75th Annual Convention of the American Psychological Association, 1967, 2, 193-194.
- Lubin, B. Adjective checklists for the measurement of depression. Archives of General Psychiatry, 1965, 12, 57-62.
- Lubin, B., & Himelstein, P. Reliability of the depression adjective checklist. Perceptual and Motor Skills, 1976, 43, 1037-1038.
- Ludwig, L. D. Elation-depression and skill as determinants of desire for excitement. Journal of Personality, 1975, 43, 1-22.
- Miller, I.W., & Norman, W. H. Effects of attributions for success on the alleviation of learned helplessness and depression. Journal of Abnormal Psychology, 1981, 90, 113-124.

- Polivy, J., & Doyle, C. Laboratory induction of mood states through the reading of self-referent mood statements: Affective changes or demand characteristics? Journal of Abnormal Psychology, 1980, 89, 286-290.
- Scheier, M. R., & Carver, C. S. Self-focused attention and the experience of emotion: Attraction, repulsion, elation and depression. Journal of Personality and Social Psychology, 1977, 35, 625-636.
- Strickland, B. R., Hale, W. D. & Anderson, L. K. Effect of induced mood states on activity and self-reported affect. Journal of Consulting and Clinical Psychology, 1975, 43, 587.
- Velten, E. A laboratory task for induction of mood states. Behavior Research and Therapy, 1968, 6, 473-482.
- Wilson, A. R. & Krane, R. V. Change in self-esteem and its effects on symptoms of depression. Cognitive Therapy and Research, 1980, 4, 419-421.
- Wortman, C. B., & Dintzer, L. Is an attributional analysis of the learned helplessness phenomenon viable? A critique of the Abramson-Seligman-Teasdale reformulation. Journal of Abnormal Psychology, 1978, 87, 75-90.

Footnotes

Reprint requests should be sent to Robert A. Butler, now at the University of Washington, Department of Psychiatry and Behavioral Sciences, RP-10, Seattle, Washington, 98104.

The authors gratefully acknowledge the contributions of the following individuals for their assistance in this research: Madaline Barnes, Alan Breen, Herbert Cross, Allan Chino, Dean Funabiki, Robert J. Miller, Lorence Miller, Leilani Oana, and Ramon Saavedra.

Table 1
Pearson Correlation Coefficients Between All Measures^a

Variable ^b :	S-E	ATQ	DD	DND	NDD	NDND	AMS	DACL
Self-Esteem (S-E)		-.70***	-.47***	.03	.30***	.19*	-.29***	-.37***
Automatic Thoughts (ATQ)			.50***	-.11	-.32***	-.11	.20*	.40***
Depressed-Distorted Cognition (DD)				-.48***	-.40***	-.19*	.19*	.19*
Depressed-Nondistorted Cognition (DND)					-.17	-.38***	.03	.05
Nondepressed-Distorted Cognition (NDD)						-.38***	-.10	-.17*
Nondepressed-Nondistorted Cognition (NDND)							-.14	-.09
Sense of Mastery (AMS)								.44***
Depression (DACL)								

* $p < .05$ ** $p < .01$ *** $p < .001$

^aCorrelational coefficients reported in this table are calculated on all pre-treatment scores.

^bFor all variables except sense of mastery, high scores represent larger values.

Table 2

Means and Standard Deviations for all Dependent Measures

Variable	Self-Esteem						Automatic Thoughts					
	Pre-Scores		Post-Scores		Change-Scores		Pre-Scores		Post-Scores		Change-Scores	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Low Self Esteem												
Positive Feedback	41.80	16.14	57.33	26.29	+15.53	20.98	66.66	25.96	60.53	27.51	-6.13	14.46
Average Feedback	41.93	8.75	59.73	22.20	+17.80	18.75	63.29	24.30	55.06	28.18	-8.20	22.38
Negative Feedback	43.07	10.50	63.93	16.99	+20.87	15.54	70.67	18.53	57.27	16.59	-13.40	21.23
Medium Self-Esteem												
Positive Feedback	74.60	1.84	82.87	8.90	+8.27	8.27	43.00	13.47	41.40	8.53	-1.60	9.15
Average Feedback	74.73	1.90	81.73	14.40	+7.00	14.39	40.67	8.37	39.60	7.10	-1.06	10.35
Negative Feedback	74.53	2.17	81.93	8.83	+7.40	8.14	44.87	6.35	43.87	7.60	-1.00	6.58
High Self-Esteem												
Positive Feedback	101.27	9.25	101.13	7.59	-.13	9.89	39.47	7.99	35.26	7.23	-4.20	9.23
Average Feedback	104.00	10.37	101.73	7.68	-2.27	11.22	36.00	4.84	39.80	9.45	+3.80	7.82
Negative Feedback	102.80	2.78	101.73	8.87	-1.07	8.23	35.80	4.62	36.33	8.30	+.53	5.62

Self-Esteem and Depressive Cognition

24

Table 2
Means and Standard Deviations for all Dependent Measures

Variable: Condition	Nondepressed-Distorted Cognition						Nondepressed-Nondistorted Cognition					
	Pre-Scores		Post-Scores		Change-Scores		Pre-Scores		Post-Scores		Change-Scores	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Low Self Esteem												
Positive Feedback	4.80	2.27	6.00	2.04	+1.20	2.11	5.60	2.26	5.33	1.76	-.27	3.01
Average Feedback	5.33	2.13	6.33	2.44	+1.00	2.83	6.86	1.41	7.33	1.54	+.47	2.17
Negative Feedback	5.53	1.60	6.47	1.36	+.93	1.79	5.20	1.57	7.00	1.85	+1.80	2.60
Medium Self-Esteem												
Positive Feedback	5.80	1.61	6.07	1.75	+.26	1.83	6.40	1.96	6.80	1.93	+.40	1.59
Average Feedback	5.53	2.03	6.80	2.24	+1.27	2.22	6.73	1.62	6.87	2.03	+.13	2.56
Negative Feedback	6.27	1.98	6.00	1.65	-.27	2.05	6.60	1.60	7.33	1.45	+.73	1.79
High Self-Esteem												
Positive Feedback	7.07	2.02	6.94	1.53	-.13	2.13	6.60	2.64	6.67	2.09	+.07	2.02
Average Feedback	5.73	1.53	6.20	1.37	+.47	.99	6.93	1.71	8.00	1.36	+1.07	1.91
Negative Feedback	6.53	1.55	6.93	1.49	+.40	1.72	7.07	1.94	7.20	1.26	+.13	1.55

Table 2
Means and Standard Deviations for all Dependent Measures

Variable	Depressed Distorted Cognition						Depressed Nondistorted Cognition					
	Pre-Scores		Post-Scores		Change-Scores		Pre-Scores		Post-Scores		Change-Scores	
Condition	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Low Self Esteem												
Positive Feedback	4.73	3.03	3.60	3.48	-1.13	2.20	7.87	2.53	8.07	2.58	+.20	2.76
Average Feedback	2.33	2.16	1.60	.99	-.73	1.75	8.47	2.03	7.73	1.80	-.73	2.21
Negative Feedback	3.87	2.95	2.13	2.33	-1.73	3.33	8.40	2.61	7.40	2.23	-1.00	2.67
Medium Self-Esteem												
Positive Feedback	2.00	1.65	1.13	-.73	-.87	1.19	8.80	1.97	9.00	1.77	+.20	1.26
Average Feedback	1.93	1.49	1.33	1.23	-.60	1.55	8.80	2.31	8.00	2.00	-.80	2.86
Negative Feedback	1.93	1.39	1.20	.86	-.73	1.16	8.20	1.92	8.47	1.51	+.27	2.40
High Self-Esteem												
Positive Feedback	1.47	.83	.73	.70	-.73	1.10	7.87	1.68	8.60	1.96	+.73	1.91
Average Feedback	1.80	1.26	1.33	1.05	-.47	1.25	8.53	1.85	7.27	1.75	-1.27	1.94
Negative Feedback	1.47	.63	1.00	.76	-.47	.92	7.93	1.75	7.87	1.55	-.07	1.22

Self-Esteem and Depressive Cognition
26

Table 2

Means and Standard Deviations for all Dependent Measures

Variable: Condition	Sense of Mastery						Depression					
	Pre-Scores		Post-Scores		Change-Scores		Pre-Scores		Post-Scores		Change-Scores	
	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>	<u>M</u>	<u>SD</u>
Low Self Esteem												
Positive Feedback	6.13	2.45	6.07	2.82	-.07	1.33	9.07	5.08	10.33	6.34	+1.27	3.28
Average Feedback	5.93	2.66	6.20	3.19	+.27	.80	10.87	6.76	10.00	4.75	-.87	5.01
Negative Feedback	6.80	2.40	6.93	2.05	+.13	1.06	10.80	4.06	12.73	4.30	+1.93	3.88
Medium Self-Esteem												
Positive Feedback	5.27	1.91	5.40	1.99	+.13	.99	6.00	2.48	6.60	3.42	+.60	3.36
Average Feedback	5.13	1.64	5.07	1.83	-.07	.46	6.93	2.91	8.27	5.69	+1.33	3.68
Negative Feedback	5.20	1.42	5.40	1.35	+.20	.86	7.47	4.47	8.13	4.19	+.67	5.47
High Self-Esteem												
Positive Feedback	4.87	2.13	4.67	2.02	-.20	.56	5.33	3.77	4.40	3.36	-.93	2.20
Average Feedback	4.33	1.84	4.67	1.95	+.33	1.95	6.87	3.76	6.67	3.62	-.20	4.06
Negative Feedback	4.13	1.25	4.46	1.46	+.33	.98	5.80	3.28	5.20	2.51	-.60	3.83

Self-Esteem and Depressive Cognition

27